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[Translated from the Bienenzeitung.]
The Exhibition at Simmening.

I.

On the 1st of August our International Exhibition of stocks of live bees was opened at Simmening in the suburbs of Vienna, where we had been granted the use of the new school house and school garden. We all met in the public gardens of Herr Kleinle, and forming into a procession, the firemen with music leading off, then the Turners with flags, and last the guests, we marched to the Exhibition grounds. The arrangements were made under the direction of the Counselor of the Agricultural Bureau, Herr von Marenzeller, who was also present in the procession. In the great hall of the school the assembly was heartily welcomed by Dr. Seidler, as head of the school council of that district. Whereupon the Vice President of the Association, Dr. Vincent Heller, made the following reply:

Honored Assembly: Since the honor of opening this, the first International Beekeepers' Exhibition has fallen upon me, suffer me to make a few introductory remarks. Already in ancient times, so far back as history or tradition reaches, has that little and comparatively insignificant insect, the Honey Bee, attracted the attention of man. At first that man sought for the honey and wax of the wild swarms of bees in the hollow trunks of trees and clefts of the rocks, and used these rich products on the one hand for the benefit of mankind, and on the other as an offering to the gods. Soon, however, these wild swarms of bees were cherished near the house and kept in the hollow limbs of trees, until gradually not only individual swarms lost their wildness, but the whole race threw off their state of wildness and became one of the most loved of domestic animals. As all wild animals become more and more accustomed to the presence of man, so the bee gave up the greatest portion of her wildness, and to-day uses in a very modified way her unpleasant sting.

In the lapse of time honey and wax became almost indispensable to mankind, and thus the

beekeepers became a separate, much-honored guild. This was the blooming of bee culture in the middle ages, where the German Zeidlergesellschaft, especially, in Nuremberg, had a very high reputation.

As human industries are always advancing toward perfection, as the natural philosopher and the gold-seeking alchemist, although finding no gold in their retorts, yet accomplished a great good in developing the science of chemistry, so for the pure products of nature, wax and honey, many substitutes have been invented, which although being inferior as to quality, have the advantage of being cheaper in price. For the wax candle has been substituted first the tallow, then the stearin candle; for honey we have the juice of plants and the finest sugar of our own times.

What was more natural than that these all caused a hindrance to bee culture, which worked itself more and more to the front, until everywhere bee culture was slighted, except by a few persons—priests in the temple of nature and agriculture, among them many priests of God of all confessions of faith. Much as chemistry and through it the practical arts have been able to accomplish in all parts of the world, they have not been able to show a drop of honey or a particle of wax that will at all compare with that produced by the bee. Wander through the world's exposition, the largest the world has yet seen, and you will be convinced of the truth of my words.

Honey and wax happily still command a fair price, which yields to beekeeping a fair profit, and places it in a high rank of national economic value, as every one living in the country, or near the same, or in towns rich in gardens, can cultivate the same.

In the middle of the present century beekeeping began to raise its head more and more, and it was granted to those priests in the temple of nature and science, especially Pastor Dzierzon, of Carlmarkt, in Prussian Silesia, Prof. Dr. von Siebold, of Munich, and Baron von Berlepsch, continually to furnish us with more advanced discoveries upon which it was possible to base a rational system of bee culture, from

which most wonderful results have already come and may yet come. Already there are many who either support themselves and their families entirely from the profits of beekeeping, as Dathe, Gunther, &c., or to whom the income derived from their bees is a welcome addition to their otherwise small income.

Let bee culture again flourish so that every one having the disposition may pursue it, and then the hundreds of thousands of tons of honey and wax produced in the plant world will not be wasted, as is now the case; nor will there be those large sums of money sent out of the country for the purchase of these products, but it will remain in the land, when honey and wax becomes a paying commodity in trade; then will the ever advancing, never resting technical chemistry and arts, find many now unknown uses for these products. Hence it appears to me to be of the greatest importance, both by word and writing, to advance bee culture, by the reasonable employment of associations—that words of destiny in the present century—through beekeeper's associations in every land, and the uprooting of the many prejudices still existing against beekeeping.

For the purpose of carrying out such an object as this, our association has made the experiment of calling into life the first International Bee Exposition. Whither and how far this humble attempt has succeeded, you will be the best judges. You must, however, make due allowance for the difficulties that we have had to overcome, and the brief space of time we have had in which to accomplish our work; since only after the failure of our last attempt to have living stocks of bees exhibited at the World's Exposition, did we arrive at the conclusion to hold this Exposition, and the time of opening fell very near to that of the opening of the World's fair at Vienna.

May this be a good sign of the success of bee culture both here and elsewhere, that this exhibition is held in the rooms of a building dedicated to a new school, for every advance, to be permanent, must come out of the school.

Receive, honored citizens of the town and school of Simmering, from me, from our Beekeepers' Union, and from all the beekeepers of this and foreign lands, our heartfelt thanks, for your voluntary offering and hospitality.

And to you, my beloved children, to whom the future belongs, to you, of whom our Saviour always spoke in the most loving terms, to you especially the school belongs, and for you it was built. Learn, alongside of your school tasks, in your hours free from study, the life and habits of the honey bee; thoughtfully observe them as they fly from flower to flower, and follow the good example taught by these little insects. Gather, industriously, in the bright spring days of your youth, against your later days of autumn and winter, the honey and wax

of knowledge. Learn, above all, from the bee, that good concord, and peace and obedience they show to their mother.

Obeys thus your parents, teachers and superiors. And when you have grown to manhood, obey the laws of the land, like the bees obey their laws, love the king and the fatherland as the bees do their mother, and when threatened with danger fight in their defense as the bees do.

Gentlemen, in closing allow me to remind you of a quotation from the Roman poet, Virgil, which is the motto of our Association:

"Rege incolumemens omnibus una est."

What the poet here says of the population of the hive, applies to every association, and especially to the state.

Let us wish for the success of those great laws of modern times, which have instilled a new life into our beloved fatherland, let us offer an earnest prayer for the well being and success of his Majesty, the Emperor, and the Empress—the honored protectors of our union."

Then Herr Gatter explained more particularly the objects exhibited in the Turner Hall, and trials were made of the various honey-emptying machines. Then the bee swarms placed in the garden were carefully examined. At the close of the exercises the younger scholars sang the national song, followed by music from the bands.

The evening was spent at Herr Kleinle's gardens, where regular and impromptu toasts were offered. Among the latter the most marked was the interesting and witty speech of Herr Vogle. Baron Schwartz, Director of the Exposition at Vienna, excused his absence, owing to the sitting of the juries at Vienna. X. Y.

FOUL BROOD.

The following letter was received by the Editor from Herr Kaucke, of Waltinghausen, with the request that it be published.

EILVESE, NEUSTADT, June 6, 1873.

HONORED MR. KAUCKE: You may remember that I came to you last year at Easter. I was then in great trouble, as my bees were suffering from foul brood. My 27 stocks were penetrated through and through with the dread disease, so that I tore out and buried the interior of two of them. You gave me, without pay, your remedy for foul brood, and also the necessary instructions for making and applying it. You told me I should cut away all of the interior to three combs and not to be afraid of the French brandy. It was now: "bird eat or die." I had an apothecary in Neustadt prepare the recipe for me, and on the fourth evening afterward began using the cure, and in ten days procured more. Sometime afterward my bees swarmed so well that my stocks increased from 27 stocks to 60. Last autumn my bees were fully cured. In a single weak stock there were

to be found in the lower cells some diseased larvae left over from last year, but in the brood nest all was healthy. I used this remedy again this spring.

Now I must fulfill my promise to inform you of the result. My bees are cured. I give you my lasting thanks therefor.

HEINRICH DANNENBERG, Apiarian.

This is to certify that the Apiarian, Dannenberg, is a truthful person, and that the above declarations are worthy of all credit.

L. S.

BORMAN,

President of the Corporation.

Ellicee, June 6, 1873.

The following is the remedy discovered some years ago by Herr Kaucke, and used with much success by Mr. Dannenberg:

For preparing food for forty stocks you take
 1 Ogr. Assafœtida - - - 6 lbs. Alum,
 " Long Peppers - - - " Cress seed,
 " Camphor - - 6 lbs. Brown mustard,
 " Devils-bit,
 " Nutmeg,
 " Guinea grains.

These nine ingredients are pulverized in a mortar, and are put into a clean flask with one quart of French brandy. With occasional shakings this is left standing for twenty-four hours, when the half of it should be poured into honey, unmixed with water, and fed to the bees. One evening is allowed to pass, and on the third evening the remaining portion is fed in the same manner as the former. On the evening before the first feeding, and one the evening between the two feedings, pure honey, free from water, should be fed to the bees. The feeding should take place at the time of the blossoming of the pear trees, when the bees are building drone comb. Care should also be taken that the vessel containing the food should be well covered with straw, cut about two inches long, otherwise the bees stupefied by the fumes of the brandy, would fall into the dish and be drowned.

[For the American Bee Journal.]

Wintering Bees.

It is a long time since I have written for the JOURNAL, but I have read it as attentively as ever. Since my return from New Jersey I have not felt permanently located and have not again gone to keeping bees exclusively, though I am keeping a few, having seventeen swarms now.

There is one little point of considerable value in wintering bees which was brought to my notice some twelve years ago, in connection with Torrey's Maine State Bee Hive. The bottom-board of his hive had cleats nailed to the under side in such a way that it might be turned over during the winter and the hive allowed to rest on the cleats, giving the bees an empty space of two inches under the combs. This, it

was claimed, allowed the dead bees and filth of all kinds to fall clear of the combs, keeping them much cleaner, drier, and more free from mould, besides ventilating them better. I found it a very great advantage, as such swarms almost invariably wintered better than those having the combs close to the bottom board. Every one who has wintered swarms in hives only part full of comb has most likely observed that such swarms usually winter better than those in hives full of combs, which I account for in the same way. I have sometimes made frames two or three inches high, just large enough to set my hives on for this same purpose. For hives with bottoms fastened on and open movable frames, of course, a narrow section might easily be attached to the top of the hive by the ingenious beekeeper, to be used only in winter and for the same purpose. Kidder's double hive gives this empty space, though as it is the same during the summer it is sometime partially filled with comb which must be broken off after the season's work is done. I propose sometime to tell you how I got foul brood and how I got rid of it.

J. L. HUBBARD.

W. Chesterfield, N. H., Oct. 1873.

Bees Swarming.

A sure way to prevent bees from going to the woods when they come out and alight, is to get a pail half full of cold water from the well; take a broom brush and dip it in the water, and throw it up over the bees, and it will come down on them like fine rain, then hive them in the usual way, and sprinkle them while going in, and sprinkle the ground around the hive, to cool the air; in fifteen or twenty minutes do it again, and continue it until the day is cooler; keep the hive in the shade. There is no need of having any bees go to the woods—not at all. I had over forty swarms last summer, and saved all by sprinkling them.

"But," says one, "my bees go to the woods without alighting." I don't dispute it in the least; but during the thirty-five years that I have kept bees, I have never had a swarm come out and go to the woods without alighting first; and I am safe in saying that I have hived a thousand swarms. Bees sometimes come out undiscovered, and after a while start for the woods, and are seen on the second start.—*Rural New Yorker*.

For centuries Italian bees, described by Aristotle and Virgil, were supposed to be a myth, until discovered during the wars of Napoleon by Captain Balenstein, who carried a colony across the Alps to Switzerland, in 1843. In 1853 they were introduced into Germany by Dzierzon, and into the United States in 1860.

[For the American Bee Journal.]

The Adair New Idea Section Bee Hive vs. Old Fogysm and Empiricism.

Although Mr. Adair does not seem to relish criticism in regard to his hive, it strikes me that it does not deserve much praise. But let us discuss its merits.

First, what is the Section Bee Hive? It is a box containing a hive formed by close fitting frames or sections. It is the "Huber Leaf Hive" with this difference, that the frames or sections project one over another at the top and bottom. These hives look well when empty and new, but let us consider their management when occupied by bees.

To open the hive and visit it, you must remove the box from the hive by sliding it out on a board; then you must remove the wires that hold the sections together. If it is a newly hived colony, you must be very careful, for as soon as the wires are removed, the sections come apart and fall on each side, breaking the glasses of the ends. If, however, there is enough of propolis the sections will remain together until you pry them off with a chisel. Take off the first section, there,—place it against this tree—take off the next—here comes a lot of young bees falling on the ground—let some one hold that section—take off the third. If you are looking for the queen, you may have to take them all off—but what are you going to do with your sections? You cannot set them in any place, for there are bees under and around them. You cannot hang them in any place, for they have no projecting ends. Now let us close it. Bring me a section—brush the bees from under it, brush them from the sides, at the top—now at the bottom, bring them together—look out, you are crushing bees on this side—hadn't you better brush them all out! Now fasten them together with the wire—look out, there is a section out of place—push it back—there, now we are ready to put the hive back in the box. Lo! what a quantity of bees in that box!—they are running all over it—brush them out—now push the hive in. Well, if we did not crush more than a pint of bees we are quite lucky.

O! beekeepers, disciples of Langstroth; you who use the Langstroth pattern, the Quinby hive, the Thomas hive, the American hive, the Triumph hive, you old fogies, you empirics, such is the Adair Section Bee Hive. Compare it with yours.

If anybody has used the section hive and finds it of easy management, let him come forward and explain to us the proper way of handling it.

But here comes an improvement, the "New Idea." What is that? If I understand it right, the "New Idea" is a hive containing four thousand cubic inches or more in the brood chamber,

with an entrance in the side instead of in the front. Is that all?

Mr. Adair, I beg your pardon, but if that be the New Idea, then "old fogies" have new ideas also, for Messrs. W. H. Githens, John Wheeler and Ch. Dadant, in Hamilton, and J. D. Kruschke, in Berlin, Wis., have been trying and using hives containing four thousand cubic inches for the last six years, and they have all come to the conclusion that they were *too large*.

What advantages do you claim for your "New Idea Section"? That it is the only non-swarming hive ever constructed! But does not Gallup acknowledge that out of twenty-two non-swarming hives that he had, three cast swarms this season. Does it prevent drone raising? How? Does it produce more bees than ours? Not more than a hive of 2,000 cubic inches, for no queen can occupy more than 80,000 to 85,000 inches of brood at one time. It is very well to speak about prolific queens, but we must bear in mind that a queen that will lay 4,000 eggs in one day, is doing an extraordinary business. The best queens that I ever saw occupied about 3,500 cells in one day. Such queens are scarce, however.

I think that Mr. Adair claims that his hive will bring more honey, because bees will work easier in the sides of the hive than in the top. I do not know what Mr. A.'s experience is in side boxes; but I can say that in my father's apiary, out of sixty hives containing both side and top boxes, not separated from the brood chamber by any partitions, not one colony was found that worked in the side boxes half as well as in the top boxes.

Mr. A. also says that the "Extractor has been overrated," that "If beekeeping is to be made a success, it will not be accomplished by the use of the Honey Emptying Machine." Mr. A. is prompt in changing his mind, for in the previous year he said, speaking of the same machine: "This is one of the most important apicultural inventions made in a number of years. It enables the beekeeper to realize more than double the quantity of honey he did without it. Every beekeeper should have it. If he has only two or three stocks, the surplus honey obtained by its use, &c.... will pay for the apparatus in a single season." (Outlines of Bee Culture.)

Now, sir, what is it that you offer to sell for the low sum of \$10? Is it the improvement of the old Huber hive under the name of Section hive? Is it the New Idea (?) of making a hive containing 4,000 cubic inches, or more? Or is it the side entrance, or is it a combination of these three?

We old fogies and empirics are very much in the dark about all these things, and would like a little more light on the subject from your inventive experience.

C. P. DADANT.

Hamilton, Ill., Oct. 8, 1873.

[For the American Bee Journal.]

Kansas State Beekeeper's Association.

The annual meeting of this association was held at Topeka, on the 24th and 25th of September, during the State Fair.

The President being absent, the association was called to order by the Secretary, N. Cameron, and on motion Hon. M. A. O'Neill was elected temporary President.

The Secretary then read a portion of the proceedings of the last two meetings of the association, showing that the time of the annual meeting had been changed from January to the time of the State Fair. He also stated that the former Secretary had never turned over to him the constitution of the association, and he had left the country, so that we were without a constitution.

On motion the following committee were appointed to draft a constitution, to be submitted at the next session: Judge Guthrie, G. F. Merriam and N. Cameron.

An essay was then read by the Secretary, entitled "A Few Facts about Bees," after which there was an animated discussion on the topics suggested by the essay.

Mr. Meador objected to the use of the word fertilization, as often used by apiculturists to express the copulation of the queen and drone; he stating that queens were fertile without meeting the male bee, and that many workers were also fertile that never had connection with the drone; he claiming that they were fertilized by the food they received, and were capable of laying eggs that would produce a progeny, which, however, would be all males without impregnation, after which all the eggs produce females: and that the male bees were generally produced by eggs from the worker bee that was fed for the purpose.

Mr. O. Badders gave us the result of an experiment which may lead to a new discovery of no small importance. He removed a dozen or more eggs from worker cells to drone cells, and at the same time removed the queen from the hive, and all the eggs thus removed hatched perfect drones as far as the eye could detect. No other solution could be given to this experiment than that the bees removed the spermatozoa that changes their character from male to female, after they had been placed in the drone cells. If this should prove true, on further experiment and investigation, it will be a discovery in apicultural science.

Mr. Stiles wanted to know if there was more than one kind of drones, as he understood that drones were produced by fertile workers and the queen.

He was answered that drones were all alike perfect drones, however produced.

A question was then proposed, whether wax could be fed to bees so as to have them use it in building comb?

Mr. Badders had fed wax (according to the Adair theory) melted and worked in honey, so that the wax would be in minute particles, and his bees built comb very rapidly from it.

Mr. Meador thought there was little gain from feeding wax. They would use the honey mixed with it and build some comb, but most of the wax they would carry out of the hive.

A question was then asked, why a queen was different from the worker bee? Some claimed that it was on account of the worker cell being too small to allow the development of a perfect female. Others thought it was more owing to the food in quality and amount. An instance was given where small and worthless queens were produced in queen cells, on account of a scant supply of food; and that it required both the larger cell to admit of perfect development, and the proper food, in quality and amount, to produce it.

Mr. Meador proposed the following question for discussion to-morrow evening: Why does Apiculture attract so little attention as a branch of husbandry? which was accepted by consent.

H. Cameron offered the following resolution, which was adopted:

Resolved, That a committee of three be appointed, whose duty it shall be to press upon the State Board of Agriculture the importance of encouraging Apiculture by more liberal awards.

Gen. H. Cameron, Dr. L. J. Dallas and G. F. Merriam were appointed said committee.

SECOND SESSION.

Wednesday Evening—Hon. M. A. O'Neil in the chair.

The committee on constitution not being ready to report, the President read a very interesting paper on Bee Culture; after which the committee on constitution reported, which report was amended and adopted.

The following names were received as members of the association:

Noah Cameron, G. F. Merriam, Hugh Cameron, R. C. Callihan, O. Badders, D. E. Bowman, H. A. Stiles, J. V. Randolph, James D. Meador, J. M. Miller, James H. Pheanis, G. W. Skinner, S. M. Weymoth, W. H. Weymoth, S. J. Miller, C. W. Stokes, E. D. Van Winkle, M. A. O'Neil, F. J. Farr.

The following officers were then elected to serve one year:

President—Hon. M. A. O'Neil, of Black Jack.
Vice President—Capt. James D. Meador, of Independence, Mo.

Secretary—N. Cameron, of Lawrence.

Corresponding Secretary—O. Badders, of Leavenworth.

Mr. Meador offered the following resolution:

Resolved, That we regard the action of the Postmaster General in ruling that bees are not mailable matter, as an unlawful interference with our rights.

The resolution, after some discussion, was unanimously adopted, Mr. Skinner giving the most pertinent reason for the Postmaster General's action in the matter. He said that some postmasters had mistook packages of bees for money, had opened them and got stung, and then complained to the Postmaster General, that bees sent through the mails were getting out and stinging the postmasters, and hence the ruling. The Secretary stated that packages of bees sealed up, with letter postage on them, postmasters had no business to know what was in them or to open them any more than they had to open our private letters or money packages, and that it was as much a criminal offense to open one as the other.

The question presented by Mr. Meador was then taken up. Why does apiculture attract so little attention as a branch of husbandry? The President spoke on this question at some length. He thought that owing to many failures arising from want of a more thorough knowledge of the business, many were discouraged. That a practical knowledge of the business was necessary to insure success. Mr. Skinner said that one reason why this important branch of husbandry lagged was from the fact that our agricultural societies were too much absorbed in shows, gambling, horse racing, etc., to give any encouragement to any useful industry. Mr. Callahan and Mr. Miller thought there were only a few localities where beekeeping could be made profitable on account of a scarcity of bee pasture or honey plants. Gen. H. Cameron said that apiculture attracts little or no attention at our State fairs and from the thoughtless public, for various reasons: All the wealth-producing industries are, or at least have been, pushed into the background by certain practices, fashions and customs which contribute nothing to the wealth, morals, or true civilization of the State. This is chiefly owing to our own indifference and the thoughtlessness and infidelity of our educators. The interests of the wealth-producers of the State are not made so prominent as the interests of sporting men, because we do not own nor control the newspaper press of the State. Papers started to advocate exclusively the rights of the individual classes are not sustained as they should be, and many of them are permitted to die. This is the basic evil or parent of all the ills we complain of. If the industrial classes will organize thoroughly, and properly inform themselves on all matters which vitally affect their prosperity and welfare, American civilization will be greatly improved and citizenship more highly respected, Republican institutions will range higher than they now do, at home and abroad, and the advocates of industry and honesty will be able to hold the first place in the United States as easily as the advocates and friends of loafism and idleness hold it at the present time. Workingmen and women would be infinitely better

off if they would spend one-half their time in the business of saving what they produce. Mr. Cameron closed his remarks by calling attention to the novelty of apiculture as an additional reason why it did not take its appropriate rank among the useful industries of the country.

Mr. Meador said he introduced this question because it was an important subject, and he would give his views in a few words. Up to the time of the discovery of the movable frame beekeeping could not take a forward rank among the industries, on account of the difficulty of management. When the movable frame was discovered and apiculture began to prosper, unprincipled men took advantage of the situation and flooded the country with worthless patents, a vender of which could be found in every town, and unsuspecting people were swindled to such an extent that they became disgusted with the business. He said no other stock would bring such a large return as bees, with so little labor. If our bees required constant attention, he thought there would be more success. He believed that it was an easy matter for the beekeeper to realize 100 per cent. from his bees, while no other stock would do half as well. He had a hive this season worth \$15, which with its increase and surplus honey was now worth \$100.

The Secretary thought that many who attempted to keep bees calculated that they would take care of themselves; that they either lacked the disposition or the ability to give them that attention that is absolutely necessary to success.

N. CAMERON,
State Secretary Beekeeper's Association.

[For the American Bee Journal.]

Bee Notes—Agassiz Criticised.

A lecture upon bees by Prof. Agassiz has been reported in some of the papers, in which he tells a good deal that is valuable, and what I know to be true, some things that may be true, though I have never been able to verify them, and some things, if he is reported correctly, which I know to be false. This I very much regret. I would not willingly shake the confidence in so eminent a man, but allegiance to the truth certainly ought to stand before allegiance to men.

I will notice a few points in the report of the lecture as given in the *New York Tribune*, *Scientific American*, *Rural New Yorker*, and other papers. Agassiz is reported as saying: "When a swarm breaks off from an old community to form a new colony, the division is generally due to the appearance of a new queen." Now this is not true. The new queen has not appeared nor will she appear according to the general rule for eight or nine days to come. The Professor seems to have confounded the first with second or third swarms from

a hive in this explanation. It is the appearance of rival queens that causes these after-swarms.

"REMARKABLE FACTS CONCERNING THE QUEEN BEE."

Agassiz says: "The queen bee, usually quite contented with her lot, watching over her progeny, active, and patient in the care of her eggs, becomes furious if a rival arises in the hive." "Usually contented with her lot," appears to be correct, but being "active and patient in the care of her eggs and watching over her progeny," is all imagination. The truth of the matter is, she takes no more care of her eggs or progeny than the flesh-fly or mosquito. I feel safe in saying this, for I have observed hundreds or thousands of queens and never yet saw one thus engaged. All that the queen does is to deposit her eggs in the cells, some do not even do that properly, a half dozen eggs being sometimes found in one cell. The supernumerary eggs must be removed by the workers. Any one can prove the truth of this by a little attention. It is nearly true that if a rival arises in the hive, the old queen will sometimes "fight to the death." But when the Professor explains how the rival appears, he errs again. "So well this understood in the hive that the workers take care to prevent such conflicts by holding back the new queen just ready to be hatched from her royal cell until the bees have swarmed." This is the mother queen, the old one, that is spoken of now. But the fact is that when she issues with a swarm *there is no such thing as a new queen just ready to be hatched*, nor will there be short of a week, unless bad weather has kept her back. Very many swarms and old queens come out—especially with the Italians—when the young queen has not yet emerged from the egg, and no young queen in such case will hatch out short of twelve days. Nature has provided that they should leave when the young queen has progressed to the larva state and has been sealed over in her cell. She is then a week longer in changing from the larva to the chrysalis and maturing to a perfect queen, before which time she cannot fight. Now the instinct that teaches the old queen to leave with the first swarm before there is any possibility of a conflict is quite as wonderful to me as anything the Professor relates.

He continues: "At such a time," that is, just before the issue of a first swarm, "the workers will stand by the cell out of which a queen is to be born, ascertain how far her transformation is completed, and, should there be a disposition of the young queen shortly to creep out, they increase the deposit of wax upon the lid, which shuts the cell, thus preventing the egress of the royal prisoner. If she tries to break through or attempts to gnaw her way out, the workers crowd around the opening or accumu-

late such an amount of wax upon it as to frustrate all her efforts. When the old queen has peacefully departed the new one is set free."

Now we have seen or can see if we observe properly that no such things happen with the old queen. We have hives in which we can examine all parts, can see every bee, and examine the condition of every cell at any time. With such hives nothing is easier than to show Agassiz to be in error. Had his remarks been applied to *young* queens they would have been nearer the truth, but then would not have hit it exactly. The way bees proceed in swarming is briefly this: The old queen departs with the swarm as soon as the first royal cells are ready and sealed, usually leaving some unsealed. The remaining workers go on precisely as before, nurse the young, seal up the unfinished cells of workers as well as the royal cells. The queen that first matures bites her way out before she has strength to fly, and makes it her business to go about and sting her royal sisters to death. This is exemplified when a hive throws off but one swarm in a season. But if a second swarm is to issue the case is different, and then is when the second and other maturing queens are kept back, not by depositing wax upon the lid, but by simply holding it shut; a little hinge on one side is all that holds, and it can be pushed open in a second when the bees do not hold it. The first hatched queen is not allowed to destroy the others, and seems to understand that they are deadly rivals and have strength to fight a decided battle. She seems greatly agitated, running about and stopping a moment occasionally to give a few sharp shrill sounds. These in the cells repeat the notes in a hoarser key. I have taken out the combs and held a single one before me with the bees on it, and have seen the queen at the time of making the notes. I have examined the cells just described containing the queens, and seen the bees holding the door shut. I have cut off such cells, held the door myself, heard the piping noise in my hand, have laid the cell down and saw her majesty push open the door to freedom the next instant. This piping may always be heard a day or two before an after swarm or swarm with young queens. If the weather and all is favorable, the first hatched queen seeming to understand the consequence if she remains, leaves with as many bees as choose to follow, and avoids further trouble. This occurs usually in just nine days after the old queen issued. Another queen is liberated which proceeds like the one first hatched, and if a third swarm issues it is under similar circumstances and only about two days after. When the bees are through swarming the queen which is at liberty destroys all her rivals and reigns alone.

Now, a few words about the construction of cells. The Professor says: "The swarm having alighted near a favorable spot, a single working bee—one out of twenty thousand, per-

haps—starts from the crowd and lays the first piece of wax, which is the foundation of a new comb." This is not quite true. If he had left out "starts from the crowd," and simply said "lays the first piece of wax," it would have been nearer the truth. The first pieces laid are not always foundations of comb. The fact is, the first bee remains in the crowd when putting down the first lump, and is not in sight. Lumps of wax are stuck on the branch of a tree before the swarm has been there thirty minutes. A few hours after being hived they will have scores of these lumps, varying in size from a pin's head to a small pea. These disappear after the combs are commenced.

The lecturer continues: "The first bee having made the first cell, a second bee comes and stands opposite her, head to head; then another at her side, so that the two stand side by side; and the rest follow in definite position, each building a cell around itself, until gradually a good sized comb is built." I am much surprised at this. We have only to examine the process of comb building by taking out the bees occasionally, and we shall find no first cell at all until irregular lumps of wax joined together extend an inch or more downward. How a bee can "build a cell around itself" is a curious speculation. If the bee had a thin sheet of wax just the right size rolled out like paper, and could wrap it around its body, it might possibly be conceived. But comb is built in no such way, and the great naturalist is nowhere more grossly in error than here. The bee uses neither hands nor feet, but mandibles, and these it uses very much as a mason does a trowel. We can see this if we look—not, indeed, by trying to see into the dense mass of bees just hived—but by observing them through glass, when they have combs projecting outside the cluster, generally in glass surplus boxes best. We can see them detach a thin scale of pure white wax from the under side of the abdomen, one-sixteenth of an inch in diameter, then seize it with the mandibles and chew or work it into a sort of lump and apply it to the center of the comb or end of the cells. This lump is ten times the thickness of the partition wall of ordinary cells when finished. Warmth to make it pliable seems necessary. With their forceps they then remove the superfluous wax until just a thin plate at the center is left. The bottom of the cell is finished first, but wax is applied to lengthen the cell wall in the same way. It is polished with their teeth as they proceed. When the cell is one-fourth of an inch deep—if the yield of honey is abundant—it is nearly filled with honey, or receives an egg. The lengthening of the cell continues. If for a bee, one-sixteenth over a half inch in length is made. If for honey only, cells several inches long are sometimes constructed. One cell is not made first, but all advance together, and

all are filled as they proceed, only leaving room to smooth and polish the end. Of course, the impossibility of the bee being inside a cell nearly full of honey to build anything around itself is apparent.

More might be said. But surely this is enough to show the folly of taking any man, however great, as an infallible authority. I can only hope that the Agassiz teaching on other topics may be free from the mistakes which he certainly makes in this lecture on bees.

M. QUINBY.

[For the American Bee Journal.]
A New Trouble.

It was, for the season, an exceptionally warm day—mercury 80° in the shade at three p.m. At each of our seven hives there was the eager bustle and stir of harvest-time. I had just remarked to Nellie that the recent frost must have spared some of the flowers, for, apparently, the bees were hard at work, when suddenly there appeared at the open door a bright-faced little urchin, quite breathless from the haste with which he had trotted over the mile of road between the village and our "corner." With a face full of that conscious importance which not the wisest of mortals can wholly conceal, when, like Cæsar, he feels himself to be "a great part" of some important affair, he silently extended a folded paper. Taking it, I read:

MISS CYNLA: A congregation of your bees is out on a rampage, and have assembled in Mr. Hondel's kitchen. I think there is a swarm out.

M. L.

"What does it mean?" asked Nellie. "There can be no swarm out—this 27th day of September! Besides, with the doors all open, as they have been to-day, we must have seen them. Perhaps it is our run-away swarm of last June, or a detachment therefrom."

"Oh, no! They went away in just the opposite direction, you remember. It must be a swarm of wild bees from the woods—unless—"

"Are they all together, all in a bunch?" I asked, turning to the boy.

"Oh, no ma'am! They're all over the windows, and they're—they're *all over*! and they keep coming, and we can't drive 'em out!"

"I think I can guess what it means. They must be robbers in search of plunder—and I'm afraid that they belong here, too. What shall we do?" I said to Nellie, "I can't shut them up on such a bright warm day."

"It would be as well to make sure that they are our bees, before proceeding to extreme measures," she replied. "I can hardly believe that they would invade a kitchen more than a mile from home, and yet not trouble us in the least."

"Ah! but I remember now that I did close the pantry door in the face of a bee a few minutes ago. And it may be that without much

thought, mechanically and unconsciously almost, we are continually taking precautions which our friends at the village, who have less acquaintance with bees, may neglect until too late. I should certainly not hesitate to act as though I knew they were our bees, if only I knew what to do. As it is—don't you want to go to the village with Richard, for the mail?"

"Well, proceed," said Nellie. "You surely don't want me to go to the village to help Richard bring home the mail; what am I to do there?"

"Oh, you will call at Mr. Hondel's, of course, and can determine at once whether or no the bees are ours. And you can explain to Mrs. Hondel that they are simply in quest of sweets, and impress upon her the necessity of keeping everything of that description out of their reach. Tell her that, as it is so late, they will trouble her little more to-day, and she must be careful not to let them in to-morrow. Tell her, too, that we do not know what we can do to help her, here; and be *sure* to tell her that we are very sorry, and very much ashamed of the bees."

"Is that *all*?" said Nellie, as with wonted docility she prepared to do my bidding. "Wouldn't you like me to catch and bring home in my pocket every individual bee?"

"Just as you please about that, my dear. By the way, however, you may as well tell Mrs. Hondel that the bees will harm no one; that they will not sting unless pinched."

"Ready, Nellie?" called Richard, who was waiting, impatiently, of course, after the manner of men; and Nellie hurried off without stopping to listen to my parting injunction—to come home in time to avoid the evening dews and the attendant risk of ague and fever.

Hence it was after nightfall—[Nellie triumphantly maintained that it was, after all, in due (*dew*) time]—when she and Richard brought back to me this somewhat disheartening report.

The depredators, of whom Nellie found not a few stray loiterers, were genuine Italians; hence, unquestionably, our bees. They had come "all at once," Mrs. Hondel said, in such numbers that, much alarmed, she had dispatched a messenger to summon her husband from his office. By various expedients, she had succeeded, toward night, in getting rid of most of them, but, during their stay, they had made themselves generally disagreeable. One of the little boys had been stung, and the baby had put his little fat hand upon a bee on his mother's shoulder, and—

"And the baby was stung?" I interrupted, quite shocked and distressed.

"No, the mother was stung," said Nellie, with a smile. "Is that better?"

"Much better," I responded, with a sigh of relief—"and the mother, no doubt, would agree with me."

Further inquiry revealed the fact that the bees had not confined themselves to an invasion of Mr. Hondel's premises. They had likewise entered the provision stores and helped themselves to sugar and whatever else was to their liking. "First time I ever saw bees eat brown sugar!" remarked one of the afflicted parties.

"I don't know," Nellie continued, "whether you will be most amused or vexed, to learn that I was politely assured that they could not be our bees, for these marauders were long, lean, ravenous creatures, the reckless, desperate way in which they plunged into everything, showing conclusively that they were half starved. To which was added, 'and of course, Miss Nellie, *your* bees must be plump and well fed.' It was somewhat embarrassing to be obliged to own the bees, and to feel that my listener must at once conclude that we half-starved, and perhaps otherwise maltreated our pets."

"But, of course, you told them that our bees had stores in plenty."

"Yes, I told them so—but I don't know how much credit was given to the assertion. I was vaguely conscious of a doubt somewhere, and quite sure that it wasn't in my *own* mind."

"Well," I said, when the whole situation had been depicted and discussed, "as to-morrow is Sunday, perhaps the doors will be closed against them, and by Monday there may be a change in the weather."

"There is not much consolation in that," remarked Nellie. "How are we to prevent it from happening again on the next warm day? And if, next year, our bees increase at the same rate that they have done this year, we shall have, next fall, twenty-five colonies, instead of seven, wherewith to vex our neighbors! and what—"

"My dear," I interrupted, "never allow yourself to exaggerate! At the same rate of increase we shall have but *twenty-four* and a *half* colonies 'wherewith to vex our neighbors.'"

"I *didn't* exaggerate! Does the swarm in the woods add nothing to the rate?"

"I believe that it would not be allow—"

"Oh, nonsense, Cynla! Tell me at once what you think of the prospect."

"Well, I confess that, so far as I can see, it isn't altogether pleasant. Whenever we shall have a perfect autumn day—a day to be enjoyed—we shall think of our bees and our neighbors, and sigh for clouds and rain. In fact we shall only be happy when the weather is disagreeable enough to make us wretched. Whenever the sun shines we shall go about repeating

"The melancholy days have come,
The saddest of the year;"

"Cynla!" said Nellie, in a tone of grave remonstrance.

"Well, my dear, seriously and candidly, I don't know what to do. I don't like the notion of troubling our neighbors, but, on the other hand, I *cannot* think of giving up our

bees. Perhaps we shall get along without serious difficulty this fall, and we won't borrow trouble. I will tell the story in the A. B. J., and it may be that some one of our good brother bee-keepers will be kind enough to tell us how we may keep our bees at home, or at least prevent them from preying upon our friends at the village. We will not, just now, think of the desperate alternative of giving up bee-keeping. It has in itself given us so much genuine pleasure, and despite mistakes and blunders, it promises to prove so satisfactory an investment!"

"Provided," said Nellie, "that our bees survive the coming winter."

CYNLA LINSWIK.

[For the American Bee Journal.]

Report of the Jurors on the Exhibition of Articles in Class 20.

Bee Hives with Bees, Honey Extractors and Apiaries at the Fourth Annual Exposition at Cincinnati, O., 1873.

TO THE BOARD OF COMMISSIONERS--Gentlemen: We having been appointed jurors in Class 20, have examined the different articles entered for competition in that class, and now report as below:

No. 342. Bee Hive and Bees entered by G. W. Townley, of Mt. Auburn.

This is what is generally called a box hive. It is about 14 inches square and 12 inches high, with glass sides, so that the outside combs can be seen when desired. It has an addition above for honey boxes, in which what is called *box honey* is placed by the bees, and which constitutes the surplus taken off during the honey harvest. This particular hive has the combs arranged in a peculiar manner. Ordinarily the combs being parallel, the observer can see the edge of the combs at the back of the hive, and the sides of combs at the sides of hives, but in this one, edges are shown all around. This is an oddity produced by intelligent management, but of no benefit, economically or pecuniarily. It is a curiosity only. The bees are fair Italians. As it could not be opened, we did not see the queen.

No. 1261. Bee Hive and Bees. Chas. F. Muth.

This is a frame hive of the particular shape and size known as the Langstroth. It contains ten frames, each one about 9x18 inches outside measure, in which, by careful management, aided by the peculiarities of the frames, the bees are induced to build the combs within the frames. When the combs are once built properly within the frames, all care on that part of the subject is ended. By the use of the frames the bee-keeper is enabled to thoroughly inspect all the inner workings of the swarm at any time, which renders the business of the bee-keeper a certainty, and a subject of exact calculation. A bee-keeper can now be rarely

found who continues the use of the box-hive beyond the time of absolute necessity. All changes are made to frame hives. The bees in this hive are claimed to be Egyptians, and to be superior to the Italians in several points. Mr. Muth, the exhibitor, being on hand, opened the hive and showed us all its internal arrangement, and the queen also. The queen is dark, well shaped, and from the number of eggs and brood in capped cells, appeared to be very prolific. The bees differ from Italians in appearance. They have the three yellow bands, but the bands on the hinder part of the abdomen are bluish white, and give them quite a different look from Italians. They were very quiet and easily handled.

No. 314. Two Honey Extractors. J. W. Winder.

These are two varieties of the same machine. It is an apparatus brought into existence by the use of frame hives. Many bee-keepers have adopted it because by its use they can furnish honey free from comb, and also return the comb to the hive for the bees to refill, thus securing a much larger yield. By the use of the frame hive the bee-keeper can easily examine and ascertain the amount of honey ready for extraction. When the proper time has arrived, he opens his hives one after another, selecting those combs which are properly filled, replacing them with combs from which the honey has been extracted at a former time. After shaving off the caps, he places two in the machine, selecting those which balance best. A few turns of the handle, say ten to twenty, at a moderate speed, will expel every drop of honey from the outside cells. The combs are then reversed and the other side emptied. These machines are a very important addition to the tools of the beekeeper.

No. 1259. Apiary. J. S. Hill & Sons, Mt. Pleasant, Hamilton Co., Ohio. P. O. Mt. Healthy.

As this could not be brought into the Exposition building, a visit to it was necessary, which was accordingly made. Messrs. Hills' apiary is at the farm, about one mile beyond Mt. Pleasant. He has eighty-six swarms at the present time, all Italians, scattered around over a level lawn, averaging about eight feet apart, all being frame hives, and all or nearly all of the Langstroth pattern. They began the season with seventy-nine swarms and consequently have only made seven new swarms. They have about as many as they care about attending to, and therefore have not endeavored to increase their number, but have directed their efforts to the production of both extracted and box honey. They have used the extractor on twenty-one hives, obtaining therefrom three thousand five hundred and seventy-seven pounds (3,577), or an average of one hundred and seventy and one-third (170 1/3) pounds per swarm. They have set apart sixty-five (65) hives to

the production of box honey, obtaining from them two thousand eight hundred and fifty-two (2,852) pounds, or an average of nearly forty-four (44) pounds each. From the whole eighty-six (86) the average product is seventy-four and three-quarter (74 3/4) pounds each. From the much greater yield of extracted honey, and from a similar experience of former years, and for various other reasons they much prefer the production of extracted to box honey. Their hives and all the tools and appliances about the apiary are kept in a neat and orderly manner, which no doubt adds to the pleasure of the bees as well as that of the owners, and their visitors. Their hives are all near the ground, on short legs about six inches long, generally with an inclined board leading from the ground to the porch of the hive, partly shaded by trees, and are among the farm buildings, the family having no fear of stings, as they generally are when two or three hives of black bees are kept within gunshot. We opened several hives, examining their internal arrangements and the color, size, &c., of the queens without receiving any stings, and with very little danger of it. All bee-keepers agree that the Italians are much gentler and more easily handled than the blacks, and the former are fast superceding the latter. The production of Italian queens for the quicker change has become an established business for many bee-keepers. The Hills, Mr. Muth and Mr. Winder, to whom we award the different premiums, as well as several other bee-keepers around the city, are importers as well as home breeders of Italian queens for that purpose, and those desiring to Italianize their apiaries can be well suited among them.

We award as below:

1261. Chas. F. Muth, best Bee Hive with bees.

314. J. W. Winder, best Honey Extractor.

1259. J. S. Hill & Sons, best Apiary.

(Signed) JAS. H. ANDERSON,
H. W. STEPHENSON.

[For the American Bee Journal.]

Progressive Bee Culture—Answer to Mr. Adair.

If the pamphlet of Mr. Adair could be of some utility to beekeepers, I would advise every one of them to get a copy, in which they would see that if I have not always given the exact terms of Mr. Adair in my quotations I have always remained in the general meaning, such as would be understood by the majority of our readers. But the pamphlet recalls to my mind the nature bee book of Prof. Flinders, of humbugging and charming memory, who had contrived to sell fifteen cents a circular, with sixteen pages of reading matter, and sixteen pages of advertisements for his hive, his bee show, etc., likewise the book of Mr. Adair has twelve pages of reading matter, and twelve

of advertisements; and I think that the twenty-five cents, price of this book, can be employed to better use; especially as I have not been able to detect in it a single new or practical idea.

It is not the first time that Mr. Adair has used this way of raising money. I have on hand a small pamphlet—*The Outlines of Bee Culture*; second edition; by D. L. Adair; price, twenty cents. That has only three pages of matter on bee culture, and nineteen of advertisements.

Talleyrand used to say that language was given to man to conceal his thoughts; the same can be said of Mr. Adair, who uses his pen to conceal what he means, as I can prove by a few quotations.

In his reply to my criticism, Mr. Adair says that I have construed my quotations into his saying that "the production of drones is an irregular act." He adds: "If he will read it over, he will see that I did not say so. I was speaking of the constitution of the colony, and not of the act of production of drones." Now if we turn to his pamphlet, page 3, we can read: "*Drones an abnormality.*" The production of drones "always the result of an *imperfect action* of the organs of reproduction in the queen, and is an abnormality."

I quoted from the book, page 5: "*A normal colony of bees*; a perfectly balanced normal colony of bees consists *only* of a queen and workers; and so long as *that balance* is maintained, there is no necessity for any other members being added. Another fact of great importance is, that so long as the balance is perfect, no drone comb will be constructed by the bees, nor will any queen cells be commenced." In answer to my appreciation of these paragraphs, Mr. Adair says: "If this and the next six pages that follow, simply convey the idea that a queen and workers are all that is necessary to a perfectly balanced colony of bees, I will quit writing. When I said that such a colony consisted *only* of a queen and workers, it strikes me I did not say that as long as a hive has no drones it is well balanced, but maybe I did." Friend beekeepers, you can judge whether Mr. Adair should quit writing.

Further Mr. Adair adds: "Mr. Dadant closes his article by an *unfair* criticism on a hive I sent him several years ago (1869), and conveys the impression that it is the 'new idea' hive. Such is not the case." Of course the hive sent was the Adair section hive. To see how *unfair* I was in this matter, let us turn to the advertisement on the cover of the A. B. J.,—we read:

THE NEW IDEA.—ADAIR SECTION HIVE:

The result of *fifteen* years of experiment.

Two paragraphs above he notices an unkindness from me, when I charge him with claiming that his hives alone produce certainty of non-

swarming. I could quote from the book, but it is not necessary. Let us see the same advertisement as above :

The inventor has produced the *only*

NON-SWARMING HIVE EVER CONSTRUCTED.

The section hive alone has many other advantages, if we believe its inventor. For instance, I read in a circular entitled "Adair's Melextractor"—

"The section hive is the only hive that can be successfully used in fertilizing queens in confinement."

Of course, in the price list, for 1871, I find the fertilizer in confinement, with drone drop, etc., price \$3.

But enough of this *gallimatia*.

Mr. Adair maintains that there are no reasoning faculties in bees, but instinct. Instinct is undeveloped intelligence. New born children have instinct. Intelligence and the faculty of reasoning are the same. Animals have instinct, but their organs remain unfit to develop their intelligence as fully as that of man is developed. Yet their maternal solicitude sometimes increases so much their intelligence, that we can no longer refuse them some reasoning faculties. I will quote an instance of intelligence in the swallow.

A friend scientist, Mr. Touchet, who had described, years ago, the nests of swallows, was very much surprised two years ago when he saw swallows building their nests upon newly constructed houses, in Rouen, had adopted a pattern entirely different from that which he had described. He examined the birds; they were exactly the same. The old houses, having old nests occupied by swallows, he destroyed several of them, and they were all reconstructed upon the new model. The old nests were half globular in form, and deep, with a small round opening for entrance; while the new nests were enlarged, flat, and had an opening nine to ten centimeters in length, and two centimeters wide. In the old nests the small birds were heaped up, lacking air, while, in the new, the birds were more at ease, and had the pleasure of enjoying plenty of air, and the view of the surroundings.

Can Mr. Adair say that the swallows did not reason, in improving the construction of their nests? If he persists to say that that is instinct, not reason, I will answer that his theory of immutable laws, in regard to the workings of animals, is a nonsense; for the instinct of swallows has varied.

The same birds show another instance of reason. Sometimes a sparrow, too lazy to build a nest, takes possession of a nest of swallows. Then, the swallows of the neighborhood assemble, and the poor sparrow, unawares, is walled up in the nest by the earth that every swallow brings to shut up the door of the nest.

If swallows have reason, or if their instinct can vary, I cannot see how it can be admitted that bees cannot reason, too, or why their instinct cannot vary.

The denial of Mr. Adair as to the intelligence of bees, will no more destroy their reasoning faculties, than his erroneous ideas on bee culture, although printed, will stop progress.

CHAS. DADANT.

[For the American Bee Journal.]

Pennsylvania Bee Keeper's Association.

The Pennsylvania Bee Keeper's Association met at the rooms of the State Agricultural Society (Noble's Block), in the city of Erie, Oct. 1, 1873. The meeting being called to order, the following officers were elected for the ensuing year :

President, Seth Hoagland, of Mercer Co.

Vice Presidents, John Smull, of Dauphin Co., and A. J. Lee, of Crawford Co. Secretary, W. J. Davis, of Warren Co. Treasurer, James Russell, of Venango Co.

Mr. Small, of Harrisburg, moved that the President and Secretary be invested with the authority to use such measures as they may deem necessary to promote the prosperity of the Association. Carried.

At the request of several members, the President gave some very interesting remarks on the superiority of the Italian over the common black bee, and stating that his colonies had paid him in surplus honey and increase the past season an average of \$80 per colony, spring count. At the close of his address, Mr. Hoagland was greeted with a shower of questions upon various topics connected with bee culture. Mr. J. R. Eby (President of State Agricultural Society) said it had been asserted that the honey of Western Pennsylvania was superior to that of the Eastern part of the State. He wished to know if such was the fact, and if so, why? Mr. Hoagland replied by saying that the honey of each locality depended upon its floral products, and these again were influenced by the soil from which they grew, and the kind of weather prevailing while such flowers were in bloom, and possibly by their growth prior to blooming. The bee herself is not a honey-maker, but a honey-gatherer. He could not see why the same kind of flowers grown in similar conditions should not produce the same kind of honey,—thought the honey producing plants of Eastern and Western Pennsylvania were similar.

Mr. Rhey, of Westmoreland Co., wished to know what made the bees die off so the last two winters. Mr. Hoagland—That is just what I want to know. I attended the National Convention at Indianapolis last winter to learn, if possible, a solution of that question, but returned no wiser than I went. He

thought he would have to report after the fashion of some coroner's juries, "Came to their death from some unknown cause."

Mr. Smull, of Harrisburg, said he had not had as much experience in the management of bees as in eating their product, but would like to ask why it was that if there was but one queen bee in a hive, why should there be so many drones or male bees? Mr. Hoagland replied that one of the leading agricultural papers of the country, a few years ago, in discussing that question, said, "Nature has made a great mistake by providing 5000 drones in one colony, when the services of only one would be required." The speaker said nature had not erred in providing a large amount of drones, from the fact that when a virgin queen goes forth on her bridal trip, the colony in its natural condition does not possess the means of supplying her loss should she perish, before regaining her hive. Hence the importance of having a large number of drones, that her flights for fertilization be as few in number and as short as possible.

Mr. P. Morris, of Philadelphia, inquired, Is honey a vegetable, or animal production? The reason, he said, for making the inquiry, was, that a friend had recently been visiting his family, who was to confine himself strictly to an animal diet, meat, milk, eggs, etc. A dish of honey was presented to him, and according to the instructions of his physician, if it was an animal production, he could partake, if not, he must abstain. A member—According to what the Chairman has said, it must be a vegetable production. Mr. Hoagland—There is one kind of honey known as honey-dew honey, which was not a vegetable production, but was a deposition from the body of the aphid, which bees some seasons and in particular localities collect and store in their hives.

Dr. W. H. Eagle, of Harrisburg, rose to inquire what effect bees have upon the fruitage of orchards. Mr. Hoagland replied, said he had sixty-five acres of orchard and raised large quantities of fruit; was of opinion that bees were a decided benefit in securing the fertilization of the fruit-bearing blossoms.

Dr. Eagle knew a farm in Massachusetts which was sold at a high figure because its orchards yielded so abundantly. But the former owner moved to the West, taking his bees with him. The result was a great decrease of the fruit crops, so much so that the former owner was accused of having exercised some kind of witchcraft to prevent the trees from yielding their usual crops.

Mr. P. Morris (Editor of *Practical Farmers*, Philadelphia) was asked to give his opinion on the knotty drone question, viz.: Can a pure Italian queen, that has mated a black drone, produce pure Italian drones.

Mr. Morris replied that, in breeding choice cattle and horses, he had acted on the theory

that the first impregnation of the female affected all her future progeny. And the heifer or filly that broke from its inclosure at particular times, and indulged in improper company, was ruined for life, so far as producing pure stock was concerned. And his own observations had fully satisfied him of the correctness of said theory.

Dr. Eagle—The theory holds good with a higher order of creation than those referred to.

A member—Admitting the theory to be correct, so far as reference has been made, does it hold good with such animals as propagate by depositing eggs in cells, or in nests, as birds and domestic fowls.

Mr. Morris—Have observed the same results in the breeding of poultry.

The discussions having been continued to a late hour, on motion, the Association adjourned to meet at time of holding next State Fair. Special meetings held by order of Executive Committee.

W. J. DAVIS, Sec'y.

Youngsville, Pa., Oct. 1873.

[For the American Bee Journal.]

Sending Bees by Mail.

We have sent from our apiary over 600 queen bees by mail since the 20th of June. Occasionally one has died before reaching its destination, but as a general thing all have been received in fine order. We have sent one man in Pennsylvania 182, all of them went safely, save two, and the lot sent with them were re-shipped, and were several days longer in the mails than usual.

We use honey for food, and as it is contained in a sponge, there is no danger of its musing and daubing the contents of the mail bags. We have used such a cage for seven or eight years, and with the best success. Rev. L. L. Langstroth paid us a visit in May last, and he was so well pleased with the cage that we had to make him fifty of them to take home with him. He considers them the best he has seen. Any one sending queens by mail can have one of our cages upon application, and had these cages been used generally, we never would have heard about the mails being daubed with honey.

One of the largest queens bee advertisers in the United States sent us a queen this season in a wooden box, containing a piece of honey comb. The bees were daubed, and could not have stood it much longer. We thought that was first-rate for a man who advertises the best cage in use.

We sent him one of our cages, and we hope he wont longer continue to daub the mails. We think the whole trouble originated with this class of shippers in the first place.

We requested Hon. B. F. Butler to call and see the Postmaster General, and sent him one

of our cages to examine. Below we give the result of the interview:

POST OFFICE DEPARTMENT,
WASHINGTON, D. C., May 20, 1873.

SIR: In reply to the letter of your correspondent, Mr. H. Alley, of Wenham, Mass., the Postmaster General instructs me to say relative to the ruling of this Department, that honey bees should not be transmitted in the mails; that said ruling was based upon the 133d Section of the Postal code, passed June 8, 1872, which requires postmasters to exclude from the mails all articles which, from their form or nature, are liable to destroy, deface, or otherwise injure the contents of the mail bags, or the person of any engaged in the postal service, and that in view of the fact that a special agent of this Department discovered one of these packages in a leaking condition, the contents of the mail bag having been badly soiled thereby; also that a person in charge of the mail bags advised said agent that he had been badly stung by the bees, he does not deem it advisable to reverse or modify the former decision. Very respectfully,

J. W. MARSHALL,
First Asst. P. M. Gen'l.

HON. B. F. BUTLER, Washington, D. C.

Now who believes that any man was stung by the bees while going through the mails? I for one do not.

I wish I had this fellow in my bee yard about the time I get a lot of black bees from my country friends, I would let him know what it is to be stung by bees.

Mr. Langstroth promised me that he would do something about sending bees by mail. I presume his health has prevented him from doing so. The fact is, no postmaster has had orders not to receive bees to be sent in the mails. Our postmaster knows nothing about this decision, only what I have told him, and he will take all the bees I will pass into him, and I have no trouble in getting other postmasters to take them, and no postmaster would refuse to take them who understands his "biz." I am of the opinion that nothing more will be said about it unless those fellows continue to put honey in the cages, and I don't think it advisable for any one to say more about it, unless the Postmaster General opens again. I think all has been done that can be for the present.

We have this season sent queens by mail to Alabama, Texas, Missouri, Nebraska and Kansas, all of them went safely to those places. When a dead one was reported, it has come from New York State, or some other place where the mail will arrive in twenty-four hours from Wenham. With this year's experience we have learned much that is valuable to a queen raiser. We never before received so many orders for queens as we have this season, and we never before got so much honey from our bees, and of such good quality, as we have this season.

H. ALLEY, Wenham, Mass.,

P. S.—CORRECTION.—MR. EDITOR: In the October number your printer made me say some things in my article on "Feeding Bees" that I did not say. In describing the feeder made by Mr. Langstroth, you made me say: Two combs are tied together at the largest ends. What I said was this: Two *corn cobs* are tied at the largest end. Then you made me say that *my hives* have nearly as much food (Sept. 11) as they had in the spring. *Brood*, and *not food*, is what I intended to have it read. H. ALLEY.

[For the American Bee Journal.]

Bees and their Sting.

Let me premise the subject of my communication by stating that my experience in bee-keeping, to any extent, runs back only three years, and yet I have had them in keeping in the old way, for many years, as also my father before me; but having made up my mind to follow bee culture as a business, I determined to know something of others knowledge as well as to learn something myself. With these determinations and objects in view, among the very many things to be learned was how to get stung and how not to get stung. I took the advice of old bee-keepers the first two seasons, and smoked my bees sometimes with punk, again with cotton rags, then with tobacco, observing the effect upon the bees at each smoking both at the time and at subsequent visits to my apiary. I always found that the stronger the smoke (No. 1, punk; No. 2, cotton rags; No. 3, tobacco;) the more docile the bees were at the time; but woe to me when I approached afterward the colonies subdued by No. 3. Merely passing by those hives, without disturbing them in the least, they would—so to speak—pitch into me all sorts, at one time receiving no less than seven stings. Nos. 1 and 2 were less ferocious, consequently I discarded No. 3 entirely. Gradually Nos. 1 and 2 were ignored, and this season I have used no smoke at all. As a rule to go by at all times, I approach a colony to be examined at from 10 A. M. to 4 P. M.; carefully remove the cover from the hive; wait a moment, remove the honey board; pause a moment or two and then very gently raise the frames. It is very seldom that I use vail or gloves, and only occasionally I get a sting.

Here I must diverge from my subject to say that it is not a "mistake to suppose that a bee-sting is nothing when you are used to it," when a certain remedy is at hand, as in my case. Here I will state that I am in the habit of receiving visits to my apiary from gentlemen, and even ladies and children, who stand at my side, unprotected, while I take out the frames, and hunt up and exhibit the queen. Out of very many calls of this kind only one individual has been stung. Having said thus much of experience and management, I now propose to briefly make a note of the poisonous effects of the virus of the bee-sting.

1. The fact is patent that all stings do not have the same effect upon the system; in your own case, for instance, as given in a late number of the JOURNAL, if that bee had stung you on any other part of the body the effect would have been the same, in its nature, only varying in intensity and virulence, as one part of the body is more susceptible than another; and, yet, if I were to choose the spot to be stung I should want to take a little time for reflection, as to my mind the one received through the hard skin of the hand I suffered most from. I do not believe the state of the health, the particular state of the system, or any contingency that may exist so far as the human frame is concerned, has any thing at all to do with the virulence of the bee-sting. Neither do I believe that one bee is capable of imparting any more virus than another under the same circumstances.

2. No apiarian who has made any observations upon the manner of the individual bee, when making its attack, can but have noticed that there are two marked and distinct modes. First, the darting, quick, unwarmed one; second, the humming one, that seems to say, "If you don't get out of the way I'll sting you." The first, so far as my experience goes, are always very painful, acute and almost unendurable; while the latter may properly be classed among those that "amount to nothing when you get used to them."

3. Those stings whose effects operate like "little tidal wavelets" effecting extremities, causing a "strange tingling sensation in the ends of the fingers and toes, as if the virus courses through the whole system" resulting in "a general sense of weakness and soreness," are of that class where the bee-stinger is inserted directly into a principal vein or main artery. When this occurs, the virus is at once imparted to the whole system through the blood, and then come the class of bee-stings that may result seriously, death only relieving the suffering patient.

And now in conclusion, having already spun out this article much longer than intended, I will say that we should have very many more bee-keepers than we have, were it not disagreeable and even dangerous to be stung by the bees, or could we have a sure remedy at hand.

WM. S. HAWLEY.

Utica, N. Y., Sept, 1873.

[For the American Bee Journal.]

A New Honey Company.

MR. EDITOR: I consider it my duty to communicate to you that I have lost all confidence in the *solitaire* honey house of C. O. Perrine, for reasons given in a communication on the Gleanings in bee-culture, since I have in former volumes of your valuable JOURNAL recommended that great honey house, in some measure, through which recommendation I might become the cause of losses by my brother beekeepers.

I have this year sold my honey and a number of small lots I bought of neighbors, to a honey house just starting under the name of the Chicago Honey Co., at 360 Wabash Avenue, with the former wife of C. O. Perrine as principal manager, whose business tact and ability is conceded by all who know her. This new firm offered me a liberal price, gave me nearly all cash, after delivery of the honey. I feel perfectly confident that other beekeepers will have no cause of regret if they should deal with this new honey house.

I hope I will soon be able to send you some very important communications for your valuable JOURNAL.

A. GRIMM.

Jefferson, Wis., Oct. 18, 1873.

[For the American Bee Journal.]

The Honey Bee.

(Continued from Last Number.)

MODE OF COMMUNICATING AMONG BEES.

Like every other animal living in society, bees have a medium of communication. The effects produced upon them by the loss of their queen will furnish proof of this fact. In a well peopled and thriving hive, each bee is employed in its appropriate avocation, some in attending the young, some in making cells. At first, when the queen has been abstracted, everything goes on well for about an hour, after this time, some few of the workers appear in a state of great agitation, they forsake the young, stop their labor, and begin to traverse the hive in a furious manner. In their progress wherever they meet a companion, they cross their antennae, and the one that seems to have discovered the national loss, communicated the sad news to its neighbor, by giving it a gentle tap with these organs. This one in its turn becomes agitated, runs over the combs, crossing and striking others. Thus in a short time the whole hive is thrown into confusion, everything is neglected, and the humming may be heard at a distance. This agitation lasts from four to five hours, after which the bees are calmed, and begin to adopt the measures which are necessary to repair their loss.

That the agitation of the bees arises from the loss of the queen scarcely admits of a doubt. "I cannot doubt," says Huber, "that the agitation arises from the loss of the queen; for on restoring her, tranquility is instantly re-established among them, and, what is singular, they recognize her." This expression must be interpreted literally, for the substitution of another queen is not attended with the same effect, if she be introduced into the hive within the first twenty-four hours after the removal of the reigning one. Here the agitation continues, and the bees treat the stranger just as they do when the presence of their own queen leaves them nothing to desire.

Huber introduced a fertile queen, eleven months old, into a hive which had lost its own twenty-four hours before. Immediately on placing her on the comb the workers which were near the spot touched her with their antennæ, and passing their trunks over her body, gave her honey. Then these gave place to others who treated her in exactly the same manner. Vibrating their wings at once, they all ranged themselves around their adopted sovereign, hence resulted a kind of agitation, which was gradually communicated to other workers on the same comb, and induced them to come and reconnoiter, in their turn, what was going on. These arriving, and breaking through the circle that formed the foremost ranks, approached the queen, touched her with their antennæ, and gave her honey. After this little ceremony, they retired, and placing themselves behind the other where they vibrated their wings without tumult or disorder. When she began to move they were so far from opposing her progress, that they opened the circle at that part towards which she turned, followed her and surrounded her with a guard.

ANTIPATHY BETWEEN QUEENS.

That antipathy of queens is natural, is proved by the fact that it holds good even against the almost universal instinct of maternal feeling. The queen bee at certain seasons, as shall be hereafter explained, lays eggs, which in due time are destined to bring forth other queens. It might be supposed that, in this case, the feelings of a mother would have their full sway—not so. As soon as her young are about to assume a shape like her own, even when they are yet in their cradle, and incapable of self defence, she is stimulated to the utmost fury by their presence; she tears open the cells which contain them and kills her own offspring. Whatever may be the motive to such an action, we must regard it as intended to answer other purposes than gratifying the revenge of a poor insect. It forms a part of the economy of nature. It is evidently the intention of the author of nature that this should take place, for an especial provision appears to be made for such an attack on the young queens. The cocoon which the royal grub spins differs from that spun by the worker grub. The latter is closed in every direction, so that the silk coating would ward off the sting. The former, on the contrary, is left open and uncovered on the only part of the body which is vulnerable—the lower rings of the belly.

RENEDIUR.

(To be Continued.)

In the Island of Madagascar, and the Mauritius Islands, a species of bee is found (*Apis unicolor*) of a bright shining black, without spots or colored bands. The honey which is highly spoken of, is at first of a green, but becomes reddish yellow with age.

A Plant Destructive to Bees.

The large podded milk weed almost invariably causes the death of every bee alighting upon it. The bee either adheres to the plant, or else bears away a small scale sticking to its feet, and cripples itself fatally in attempting to remove the annoyance.—H. E. Norton, in *Agriculture Report*.

[For the American Bee Journal.]

Brood without Pollen.

I am quite in accordance with Argus, when he says that brood cannot be reared without pollen. I can support my theory on some facts, which are exactly the reverse of the experience quoted by Mr. J. Butler, in the AMERICAN BEE JOURNAL for August.

Some three or four years ago, I had a small colony which deserted its hive in April. I examined the hive, while that *Easter* swarm clustered, and found some brood and plenty honey. Without guessing at the cause of the desertion, I put it back in its hive. The next day it deserted again. I examined the hive anew, and noticed that there was no pollen to be found. I took a comb of pollen from another stock, which had been queenless for some time the preceding summer, and gave it to my needy colony; relieved it, and the bees, henceforth content, remained peacefully in their hive.

This spring I have had three similar stocks, who deserted their hives. Two mixed together, and I did not see fit to separate them. All three had honey and brood but no pollen.

Remembering the lesson received three years ago, I gave them pollen; put them in their hives, and they remained, and are still there.

These facts show plainly that pollen is absolutely necessary to bees, to rear brood; and that the lack of pollen can often be accused of doing the mischief, when colonies desert their hives.

Science is in accordance with experience, to show that brood cannot be reared without pollen. All the beings of the animal kingdom, are compounded with albuminous matter. The bee is not an exception to the rule. Honey does not contain albuminous matter; it contains mainly saccharine, or hydrogenous and carbonaceous matter. Whence could the larvæ get the albumen, necessary to their development, if they had only honey to eat? The jelly which is given to the brood by the bees, contains the elementary substance, albumen, which is derived from pollen, and without which the young bee could not develop itself.

CH. DADANT.

THE word honey is undoubtedly derived from the Hebrew *ghoney*, which means "delight;" an appropriate title.

[For the American Bee Journal.]
Queries.

On page 78, of October number of the A. B. J., D. L. Adair says: "I speak advisedly when I say, that so long as the balance is perfect, no drone comb will be constructed by the bees, nor will any queen cells be constructed."

Now, in view of this assertion, will he or some one else inform me why, during an abundant honey harvest, the bees will build only drone comb when an empty frame is inserted in the brood department of a populous colony? I have tried the experiment a number of times with the same result, invariably, where a single frame was inserted. It appears to make no difference whether or not the extractor has been used immediately preceding the insertion of the empty frame. I ask for information; for it is intensely annoying to find a frame filled with drone comb, when we wish to increase the scope of the brood nest by placing an empty frame between full combs.

I removed a hybrid queen from a full colony and inserted a capped queen cell, which was destroyed before it hatched, by a young queen reared from the hybrid stock which I removed as soon as discovered, and before she mated, and introduced, by the wire cage process, one of my finest queens. When I liberated her she was kindly received. She had been caged fully eight hours. At the expiration of about two weeks I opened the hive to find no brood, but a very fine young queen just hatched, which I readily knew to be a daughter of the queen I had introduced. Upon reflection I then remembered that my little six-year-old boy had insisted that that hive had swarmed a day or two after the queen was released. He had the promise of a little observing hive, if he should first see a swarm come forth, and he complained not a little that his mother could not see the swarm where it had "settled," in a peach tree, by which he lost his credit of a hive of bees. "It was about as big as my two fists," said he. I then watched the hive closely, and was surprised to find that upon the queen commencing to lay eggs, the bees commenced to construct queen cells, and continued so to do after repeated destruction of the same, until her brood, which was very fine, commenced hatching, at which time the hatched young queen, despite my efforts to prevent it, and before I was aware of the fact, the young queen killed her mother. I then introduced a piece of brood from another colony, and at once the bees commenced to provide for another queen. I again removed the brood and have now left them to their folly. If they destroy the last hatched queen, they must perish, as it will be too late for a wedding flight, as the young queen has just commenced to lay.

I should be glad to have some explanation of this strange phenomena, that I might know

the cause, and thus guard against a recurrence of the same. By this freak I have lost two of my finest queens. *Can it be accounted for?* The hive was populous, and was supplied with an abundance of stores. This strange proceeding commenced about the first of August, and the last queen has just commenced to lay, and it is now Oct. 4.

Bees have done well this summer, *i. e.*, those that survived the terrible frosts of last winter, and are in good condition for wintering.

Lima, O.

J. E. RICHIE.

[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL: We have had "our say" so often on the subject of wintering, through these pages, that we have this fall preferred to say nothing more, but we really cannot keep still while so many, as it seems to us, persist in blundering hopelessly in a wrong direction.

Now those who have had no experience with the "great bee malady," and have no fear of it, may skip the following, but to those who have suffered and may suffer again, we would make this last appeal, and in doing so we shall, as usual, censure heavily some of our veteran teachers for purposely or carelessly leading our suffering friends astray.

Mrs. Tupper, in the first place, makes the remark that "as the fall honey in the nest is of extra quality, there will be no need of taking it from the bees to prevent dysentery," totally ignoring the very abundant testimony to the effect that neither by the looks, taste nor smell could any one have inferred that the honey taken from hives from which the bees had died was other than of the finest quality. Honey sealed up nicely, as well as unsealed, and that gathered from the clover fields in June, seemed to produce disaster alike, as careful experiments showed the winter before last. That some localities have been exempt from the disease, we all know, but when it has once appeared, it seems sure to come again, and each succeeding winter seems to open a new field for its ravages. Has she no fear that those who heeded her advice in risking their bees again on natural stores, may not next spring, when lamenting over their losses blame her for having advised them thus. We cannot help feeling that Mrs. T. reads the journals to as little purpose as did Quinby, when he suggested that the blame might be laid to the *cold north winds*, forgetting that bees, carefully housed, had suffered from the *bee disease* just about equally with those left on their summer stands.

Mr. Burch, in the October number of the *Magazine*, seems to have fallen in with "*An Old Man's Views*," given in the June number of this journal (although he don't give him

credit), but, bless their hearts, did neither of them ever consider that a box hive with the combs built not quite to the bottom, gave just their conditions exactly, and yet such hives had the dysentery just as badly as the rest. A careful reading of the testimony furnished might have saved the time spent in fabricating long theories gathered from science and the doings of the "Allwise Creator himself." (We beg pardon, but friend Andrus has given us too much theory, and too few facts from bee culture). On the same principle a small colony of bees should winter well in a large, tight hive, but most beekeepers have seen the folly of such a course in trying to follow Hosmer, and we believe all are well satisfied now to follow Langstroth in considering "strong stocks, the sheet anchor in beekeeping."

Those who think a colony of young bees exclusively won't have the dysentery, had better make the experiment, for we are under an injunction not to consider that part of the matter at present.

We hardly need repeat what we would advise, yet there seems to be such a stubbornness, if we may so term it among the veterans, in regard to considering sugar as food for bees at all, that we must keep going over it. Quinby has made some experiments feeding sugar, and successful ones, too, but he don't put them in print; and H. A. King, in his October magazine, seems to have reconsidered the matter, for he replies to a correspondent who *may* have an existence, that "Honey is best, but syrup made from white sugar is *nearly* as good."

Is it possible, we fell to wondering when we saw the above, that jealousy in regard to who may have made a discovery, might stand in the way of advising hundreds or thousands as to how they might best winter their bees.

One year ago many hesitated and said we had not yet had a sufficient number of experiments, but now the journals have given us the reports of so many, all pointing one way, it does seem the matter should be called settled.

It is true that by the time this reaches our readers most of the feeding should have been finished up, and those who have decided upon risking natural stores, perhaps, are in for it; but to those who have colonies that may starve before April next, we would say, go at once, and give them food. During warm days in November, even, sugar syrup will be taken and sealed, if your hives contain plenty of bees, if they do not 'tis almost useless. As they must be fed rapidly, you should have for each hive a tea kettle feeder (described in these pages two years ago), and if you go right at it, you can feed fifty colonies in one pleasant day, if need be.

We have alone, unaided, this present week made a barrel of sugar into syrup, with which we amply supplied twenty colonies with winter

food in less than three hours' time for the whole operation. With the exception of the twenty feeders and a box to hold the syrup, we used nothing but common household implements. The bees did not empty the feeders in that time, of course, but most of them were emptied during the night, and the next evening we made another barrel, and were it not for unfertile queens remaining in the upper stories of a few of the hives, we should have had our whole fifty-seven colonies fed up for winter in about three days' time, with the aid of the twenty feeders.

Mr. Editor, with your permission we would like to make a few remarks and requests to some of the correspondents in the last number.

To Mr. Pence, our hearty thanks; the sooner we can weed out bogus reports emanating from patent hive men, the better for our pursuit. When Mr. Will R. King answers that charge, we have still graver ones from different localities, that he will do well to consider.

In answer to an inquiry on the same page we would say that straw bee houses do very well, but they are not durable, and not as tidy as we like a honey house.

It seems that our friends across the ocean are aware of some of the advantages of sugar as food for bees in winter.

Mr. Adair's reply seems manly and honest until he says the section hive "is less liable to crush bees than any other frame hive." If he is really honest in that expression, he has been a patent hive man so long that he has forgotten the meaning of words. We hope Adair will excuse us for remarking that an examination of the reports do not show a clear claim to the section hive he is selling. If it is our dullness of comprehension, will others take a look at it?

Thanks to our German friend, Collen, for the result of his experiments. We are familiar with the same fact, but attribute the loss mainly to the evaporation of the water in the syrup, so there is no great loss; yet in our experiment of feeding our colony a barrel of syrup last fall, so much was evolved that the hive felt quite warm even on cold, freezy mornings, and the bees clustered out unless the most abundant ventilation given. To set free this large amount of heat, of course, much sugar must have been consumed as fuel, and we found such the case. We now regard it as most economical to have each colony fill their own combs.

Mr. Muth, we think, has had no experience with dysentery in his locality, and his bees winter precisely as they did with us before its advent. The arrangement he mentions seems to affect but little where it prevailed.

We do not think the dampness and mold could have given his bees *the* bee disease that has made such havoc.

Mr. J. E. Moore's article seems to us to have been written mainly (like all of Jasper Hayes's) with a view of calling forth inquiry in regard to his patent hive. Had he pursued his reading he would have found that Novice advised no protection for out-door wintering that would exclude the sun in the least, but only to keep off the cold winds as much as possible. Our readers, we presume, are all familiar with our views, and that we only think out door wintering tolerable when one can't do any better. It will be a long while before we conclude to buy a patent hive for the sake of double walls for out-door wintering. Is your title clear to your patent, Mr. M.? 'Tis not a healthy plan to advertise patent rights on these pages.

If Mr. Alley will make us a visit we'll show him how to make syrup by the barrel without boiling at all, and without cream of tartar, cider vinegar or anything else; and we will show him that the bees have a way of fixing it for their own use, just as they want it. If there is "bee disease" in his neighborhood, we fear his decision is a rash one.

"Farmers should be beekeepers." What a mild suggestion, and just see the "dollars" away down through the article, that they would make, if they bought the *Eureka Hive*.

Please, Mr. Hayes, tell us how many of your patent hives you have known tried that didn't give "ary" pound of nice box honey. You are a minister, and should be fair. Now you have told the bright side of the story *so long*, is it not right you should give us the dark side, too? And while we think of it, do you know of no way by which large yields of honey could be secured without using your patent hive?

Mr. W., we beg pardon for doubting in the least that our friends would stand up for us in time of need. We feel sure now that we have many more than we have desired.

Doesn't Mr. Gallup forget that beekeepers of the present age always give their bees all the room and comb they can possibly cover? In fact we often overdo the business, and the extra combs are not used; and sometimes we put "an empty comb in the centre for the queen," *too fast*; we have all learned what effect that has. When the bees do hatch out fast, and the honey and pollen fills the combs unexpectedly, we all stand ready to give them our houses and barns at a couple of hours' notice. If it makes a difference in favor of honey to extend the combs horizontally, instead of having one row above, we shall all learn it in due time.

Thanks, Hedden, for several ideas, but won't you extract honey some if it be too thin, if you don't wait for it to ripen.

Our spiders have a way of making a web directly across the portico, and when we find a dozen bees caught heavily laden with pollen or honey, we get *madder and madder*.

Now, Scientific, you've gone and "spilt our ockepashion," and to be revenged, we insist that you give a full and complete description of how your hive is made, and all about it, for the two-fold reason, that we want to know "jist what we're a gettin'," and that some of us Yankees may want to make them at home. Now don't say, like Quinby, that you can't spend time to describe it, even if you do advertise it on the reading pages. We are 2,000 readers or more, and we won't ask a quarter of a minute apiece. Our thanks, nevertheless, for an attempt at lessening the expenses of beekeeping.

By the way, Mr. Editor, do you know how many valuable articles you picked up for October?

Bingham's plan is a whole problem, but we must think it could be improved. For instance, he would in time improve his bees so much that they would all run to swarming and swarm all the time. Secondly, his hives are too long without a laying queen, and if the new swarms had a set of empty combs they could fill them for the extra half a dozen times whilst they were waiting for the new ones to be built, and 6,000 lbs. from 181 colonies is only thirty or forty pounds to the hive, and — bless my stars, if I don't stop and go home, your next JOURNAL will be all **NOVICE**.

P. S.—On looking over the above, it really seems to read, some parts of it, as though we considered that we knew *all* about bees, but, Mr. Editor, it was not so intended, for our readers all know that our experience has been one of frequent reverses.

In the matter of wintering we have carefully weighed and examined a host of reports given in the back numbers since the "bee disease" first appeared, besides quite a correspondence from nearly all parts of our country, and after direct experiments of our own for two winters past we feel that we shall be excused if we do feel somewhat "at home" on the subject.

Reports, Experiences, and Opinions.

H. Goodlander, Leesburg, Ind., writes Sept. 29, 1873:

I have taken over 500 lbs of honey from one colony of bees this season.

T. J. Doods, LeClair, Ia., writes Oct. 8, 1873:

Bees have done well this season. The Gallup twin hive has made me 300 per cent. over and above the standard hive. I would like to get a description of the oblong hive he tells about.

John Divekey, Aurora, Ill., writes Sept. 27 1873:

Mr. W. J. Ronald's statement in regard to wintering bees in the Sept. No. A. B. J.—I have wintered my bees on the same plan for nine years, and I must say that I always kept the goose alive that lays the golden egg.

H. B. Rolfe, Westfield, N. Y., writes Oct. 7, 1873:

Our honey season here was short. From forty five stocks I received 1,100lbs in three lb boxes, which I sold for 30c at my apiary. My bees wintered well, except the winters of '71 and '72, when I followed writer's instructions, (removed the honey-board,) and lost over half my bees.

R. L. Curry, Cincinnati, O., writes Oct. 11, 1873:

This has been a good season. My colonies averaged 160lbs extracted honey per hive. I can dispose of my surplus from 25c to 30c per lb. From experiments I have made I am satisfied we get at least four times as much honey by extracting, as we would comb honey. All our honey was gathered within twenty days. Some days averaged thirteen pounds to the hive.

Chas. D. Hibbard, Auburn, N. Y., writes Oct. 18, 1873:

My bees wintered on the Shultz plan in a clamp. Have given me 1200lbs box honey, and twenty-four swarms increase. Had thirty-six first of May. Basswood did not bloom this year with us. I feel that I have done well, considering the season, and the mortality of last winter that decimated whole apiaries. I have such confidence in the method of wintering practiced by me that I shall hazard all my stocks in the clamp again this winter.

T. Smith, Kingsville, Ont., writes Sept. 27, 1873:

My bees, although they had a good start this spring, have done nothing all summer, and will not have sufficient stores to winter on unless fed. An exceedingly dry summer, killing out all the white clover, and a failure of blossom on the basswood (linden) trees is the cause. The basswood is our best pasture, and I expected at least a ton of surplus honey this season, but only took about thirty pounds, which I will have to return in the shape of syrup. Not one basswood tree in five hundred here had any bloom on them. I can't tell the cause, unless it was the severe cold of last winter.

A. W. Lundy, Frenchtown, N. Y., writes Oct. 8, 1873.

Bees have not done very well here as regards honey—the honey harvest being chiefly buckwheat. Stopped suddenly while in the height of storing in boxes. The increase in swarms has been about an average for fair season. I have read so much about the loss of bees in wintering in different parts of the country that I thought I would just mention that no such loss in wintering has occurred here. Out of thirty swarms, I only lost one, and that was the only one that I neglected to give upward ventilation.

I will also say that my bees were nearly all wintered on their summer stands without any protection.

Geo. W. Maryatt, Milton, Wis., writes Oct. 11, 1863:

I have two Vols. of the A. B. J., Langstroth on the Honey Bee, and Gleanings. By following them I started last spring with an apiary of forty-five swarms with queens, and six that were queenless. Although this has been a poor honey season, I have taken 5,000lbs of nice extracted honey, and sold five swarms in July and August, and have about one hundred colonies now, all Italians, with honey enough in their hives to winter. I made twenty-five double swarms. They gave me six barrels of honey—3,000lbs in twenty days. Will swing my hat and hurrah for the A. B. J., Langstroth on the Honey Bee, and Gleanings.

J. F. Temple, Ridgeway, Mich., writes Oct. 6, 1873:

The season here has been first rate since warm weather. I shall sell about 600lbs of box honey from eleven colonies and their increase, all that is left of one of the finest apiaries in southern Mich. Two years ago I had 165 colonies. Of that number I saved only four, in the two past winters. 161 died of disease. At times I have been quite discouraged, but am now determined to try again, but am fearful as winter approaches that I shall lose again. I winter on the summer stand. I am reading the back numbers of the A. B. J. for the purpose of learning if there is any better way. I would willingly expend two hundred dollars, or twice that sum, if I could find how to winter safely.

J. D. Kruschke, Berlin, Wis., writes Oct. 11, 1873:

I am well satisfied with this season's product: bought thirty stocks in the spring, and increased them to sixty-one; obtained 1050lbs box, and 500lbs extracted honey. Shipped 900lbs to Chicago at 27c per pound. My extracted honey I sell in small quantities at 16c per pound, but sells very slow. I wish we had as good a market for extracted honey as Novice, we would then make but little comb honey. I consider this but half a season for honey. I see a report from R. Dart, of our neighboring city, Ripon. He calls the past season a poor one. It must have been where he resides, because there are no lindens in reach. My bees worked eleven days on it, and in that time some stored fifty pounds comb honey. Immediately after, we had buckwheat, from which they gathered honey steadily for four weeks. My best stock gathered ninety-five pounds and threwed a swarm (which was put into a hive filled with dirty comb) which gathered forty two pounds; so the profits from this hive, swarm included, amounts to about forty-two dollars.

THE AMERICAN BEE JOURNAL.

Chicago, November, 1873.

REMOVAL.—We would announce to our readers the removal of the office of the **AMERICAN BEE JOURNAL** from 25 W. Lake street, to No. 27 McCormick Block, at which latter place we are pleasantly and centrally located, and where we shall be pleased to see all friends who may favor us with a call.

IN VIEW of the present serious financial disturbances and the fact that the fall of the year is just the time to settle up old accounts, renew subscriptions, etc., we feel that an appeal to those of our subscribers who are in arrears to liquidate their indebtedness to the **AMERICAN BEE JOURNAL** will not be met with indifference.

The interest which has been manifested by our friends in the past will, we feel assured, be expected at the present time, when every business man requires every available dollar for the successful conduct of his business. The stringency of the money market which affects one position of the world, must necessarily communicate itself ultimately to every other community, and remittances are never so gratefully received by the publisher as when a financial crisis has disturbed the ordinary course of business. We shall therefore feel pleased to receive all arrearages, and new subscriptions either single or in clubs. Those who are in arrears will need no second notice to remit what is due in *whole or in part*. And we reiterate our sincere thanks to all our friends for past patronage. We shall endeavor to double our present circulation of the **A. B. J.** during the coming winter and extend its influence more widely than ever before. We therefore most earnestly solicit our friends and patrons to use their best efforts to extend the circulation of this Journal. Let each present subscriber endeavor to get at least another.

Specimen copies for subscription purposes sent free to all who desire to co-operate with us.

WE HAVE received the October issue of the *National Bee Journal*, which is now published by Mrs. Tupper.

THOSE of our readers who do not preserve the **A. B. J.** in files, and who have Nos. 1 and 7, Vol. 7, and No. 1, Vol. 2, may find a purchaser by addressing the **AMERICAN BEE JOURNAL**.

SHOULD the next meeting of our National Bee-Keepers' Association take some action in reference to the World's Fair to be held at Philadelphia, Pa., in 1876?

IT IS with no little regret that we read in the last number of the *Beinenzzeitung* of the postponement of the annual meeting of the German Bee-Keepers, which was to have taken place on the 12th, 13th and 14th of September. It has been postponed until 1874, owing to the sickness prevalent in many portions of Germany.

WANT of room compels us to hold over the following interesting translations from German periodicals devoted to bee culture:

"Dzierzon"; "Extracts from History of Beekeeping in the Grand Duchy of Hesse, in course of publication in 'Die Biene'"; "An Imprisoned Queen"; "The Impregnation of a Wasp"; "Concerning Strengthening Swarms with Combs of Brood."

WE acknowledge with thanks the receipt of "The Report of the Commissioner of Agriculture, [Frederick Watts, Esq.,] for 1872." The report possesses more than ordinary points of interest, several very valuable entomological and botanical articles appearing in its pages, while the statistical tables, etc., are comprehensive and exhaustive, rendering the work as fine a specimen of national literature as has been issued for years.

WE WERE pleased to receive a call a few days since from Mr. Adam Grimm, of Jefferson, Wis., one of the most extensive bee-keepers in this country. Mr. G.'s business in this city was in connection with the sale of some 15,000 lbs. of honey comb and extracted honey which belonged to himself and his neighbors. He disposed of his large stock in hand to the Chicago Honey Company, with the managers of which he is personally acquainted. He refers to them in the most encomiastic terms, and speaks of their ability and business qualifications as being worthy of the fullest confidence.

and regard. The firm is under the management of a well known lady, formerly Mrs. C. O. Perrine, favorably known to most bee-keepers in the west.

Mr. Grimm thinks that he will be able to ship at least 50,000 pounds of honey to this market during the next season.

CLARK & HARBISON, of San Diego, Cal., have made quite an extensive shipment of honey to this city. They sent one car-load containing 21,000 pounds comb honey, which is the largest shipment ever made at any one time to this market. They realized 28c per pound for the whole amount, which may be considered a good sale for so large a quantity.

This firm is located in southern California, about 500 miles south of San Francisco. They have 1500 colonies scattered over quite a district of country. Mr. Harbison informed us that they had obtained over 60,000 pounds comb honey this season from their southern apiaries alone.

Honey Localities.

While there are few places where a stock of bees will not manage to get a living, we believe that in order to make bee-keeping a profitable pursuit, attention must be paid to choice of localities. It is so in other departments of rural industry. Some districts are specially good for grain growing, others for dairying, others for sheep husbandry. As a matter of interest, a sort of pastime in natural science, it may do to keep bees in towns and cities, but they will not reward the apiarian with much surplus honey, and there will be times when the grocery and confectionery shopkeepers and their customers will vote them a nuisance, especially if they are Italians, for if so, they will forage wherever any sweets attract them.

To test the difference between keeping bees near a town of about 8000 inhabitants, and having them wholly in the country, we last season took an average stock to board with a farming friend, and it gathered just four times as much honey as the best of our in-town stocks. We have a bee-keeping acquaintance who lives on the edge of an extensive cranberry swamp, and his bees do better than those of any other apiary in the whole region. In very early

spring, and even late in the fall, the bees appear to find something to do in the swamp. Our Minnesota friends owe their extraordinary success to the vast stretches of basswood near which they live. We would say to all who contemplate going into bee-keeping as a business, choose your locality wisely. It will pay on a small scale to keep bees in many places, where it would hardly be advisable to keep them extensively.

The Chicago Honey Market.

We give below the receipts of three of the principal honey-dealing houses in Chicago since August 1, 1873. Large as have been these receipts, they do not include but a portion of the honey which has been received in this city during the period of time indicated, and do not comprise the extensive sales of the commodity in the city by grocers, farmers and commission merchants. The great demand for the staple this season shows an almost unparalleled activity in the local market, and the demand is largely in excess of the supply. The quotations of sales in this market for the past three months tend to indicate that Chicago is the greatest honey market in the whole West, if not in the United States.

From August 1 to November 1, the receipts were as follows:

G. Baumeister & Co., No. 231 W. Randolph St., received 29,000 lbs. of honey.	
In comb, 9,666 lbs. @ 27c	\$2,609 82
Extracted, 19,334 lbs. @ 14½c.....	2,803 43
Total.....	\$5,413 25

Chicago Honey Company, No. 360 Wabash Ave., received (from Oct. 13) 37,272 lbs. of honey.	
In comb, 22,100 lbs. @ 28c.....	\$8,988 00
Extracted, 5,172 lbs. @ 15c.....	775 80
Total.....	\$9,763 80

C. O. Perrine & Co., S. E. Cor. of Market and Lake Sts., received (from Aug. 1) 90,000 lbs. of honey.	
In comb, 75,000 lbs. @ 27c.....	\$20,250 00
Extracted, 15,000 lbs. @ 14c.....	2,100 00
Total	\$22,350 00

Total number of lbs. of honey.....	156,272
Grand total amount paid for same.....	\$37,527 05

North American Bee Keepers' Society.

A committee from the North American Bee Keepers' Society is in personal communication with the superintendents of various railroads for the purpose of securing reduced rates of travel over such roads for those who expect to be present at the convention which has its next session at Louisville, Ky., the first Tuesday in December. We have delayed the Journal several days beyond its regular date of issue in order to obtain the report of this committee, from which as we go to press we have received no definite report of their success. We urge upon all those interested in bee culture to be present at the convention.

Plethora.

We have a great press of correspondence on hand, now that bee keepers are beginning to have some leisure. Though we are willing to resign almost the whole of our space to them, even that is insufficient, and we must ask their kind indulgence and utmost patience.

[For the American Bee Journal.]

The "He-Bees."

FRIEND CLARK:—In your September JOURNAL you came very near, as you say, indulging in "cussory remarks" over some "He-bees" that came at you about the same time that the *she-bees* fixed you so you "could not see it," and by way of getting clear of them you hand them over to me. You say: "When we got over our fit of vexation, we began to wonder whether it really was an error after all. We saw that the article was a translation from *Bienenzeitung*, and knowing how far Germans are ahead of us in the science and art of bee-keeping, didn't know but they had succeeded in producing a species of 'he-bees that would gather honey, &c.'... The 'happy thought' soon had to be dropped, but it occurred to us to commend this point to our advanced and advancing friend Adair... Now here is a 'new idea' for him. Let him try his hand on the 'he-bees' and train them to search for honey. It would end all our trouble about drone-comb, multiply our working force very greatly, and the apiarian world would pronounce blessings on the man who invented *drone workers*."

I took the matter under advisement, and have been asking myself ever since "why not"? I find that Von Seibold examined some Italian bees at Constance, Germany, in which the peculiarities of the two sexes were singularly

mixed up. "The mixture of external characters was manifested sometimes only in the anterior or posterior part of the body, sometimes in all parts of the body, or only in a few organs. Some specimens presented male and worker characters on the two sides of the body. The development of the internal organs were singularly co-related with those peculiarities of external organization." (See *Günther's Zoological Review* for 1864.) But Siebold says these were *hermaphrodites*. Suppose they were; are they any more abnormal than the workers that differ so widely from the perfect queen, or true female? He ascribes their production to the imperfect fecundation of the ovum. That may or may not be so. But do we not see a greater variation produced where fecundation is supposed to be perfect? What causes the tongue and mandibles of the worker to take a different shape from those of the queen? the posterior *tibia* to be concave instead of flat; adds to them the fringe of hairs that forms the pollen-basket, and the auricle and pectus that enables the workers to use their *tibia* as claspers; what shortens their abdomens by obliterating one segment; changes their color; makes the sting straight instead of curved; develops the wax pockets, and gives the power of secreting wax; and so changes the ovaries that they are incapable of yielding perfect eggs?

But more astonishing still, the workers have no instincts common with the queens. Their very passion, tempers and manners (if I may so call them) are different. The imaginative bee-keeper sees in his queen a capacity for love, jealousy and vengeance, and she has no inclination to labor, nor the capacity for it. The worker is exempt from the stimulus of sexual desire, but are incessant in the nurture of the young; are industrious and skillful. They collect honey and pollen; elaborate wax, and nurture, rear and defend young queens, which the old queen hate, and are said to pursue with the most vindictive fury, even to destruction. Yet these workers are as far from perfect females as the males Siebold saw are from perfect drones, and a worker drone would be no more anomalous than a worker female.

Just as I reached these conclusions I received the October number of the French Journal *L'Apiculteur*, and I find in it a paper read by Mons. E. Drory before the Society of Apiculture of the Giraud and Linnæan Society of Bordeaux, France, entitled "New Observations on the *Meliponas*." He finds, in the species *urussu mirim*, that the workers secrete the wax on all the five dorsal segments of the abdomen, that is, on the back instead of under the abdomen. It is not secreted in "pockets" under the segments, as in our bees, but covers the entire back as a skin. Among these bees the drones are smaller than the workers, and "produce also wax on the back like the workers," ("Prodint aussi de la cire sur le dos de la même

maniere que les ouvrières."), and says, "it is evident that the males work like the workers in the hive" ("Il est donc évident que les mâles travaillent comme les ouvrières dans l'intérieur de leur habitation"). I have translated the entire paper for the next number of the *Annals of Bee Culture*.

So you see that Mr. Drory has forestalled me. He has found drone workers in a very nearly allied species of bees, and thus proven that it is not impossible to have drone workers, even among our honey bees, if one would take advantage of such abortions as Von Siebold notices, and breed from queens producing such.

D. L. ADAIR.

Hawesville, Ky.

[For the American Bee Journal.]

Mystery Not Solved Yet.

MR. EDITOR: I was very much disappointed after reading over the proceedings of the North American Beekeepers' Association that assembled at Indianapolis last December, to find that there was not some beekeeper there that could stand up before that body of beekeepers that represented our land from Florida to Maine, and from Maine to Alaska for what I know, and tell us the TRUE cause of this dysentery that visited our beehives the spring of 1872. There has been a good deal of guess work about the matter, and the question is, who is the nearest right. This young bee theory is entirely exploded with me, it has nothing to do with the case whatever as I understand it. The bees and queens are of the same nature exactly that they ever were, and if the queens ceased to breed so early in the fall that it left nothing but old bees in the hives for winter, and that was the cause of the disaster, why did not this happen long before now?

Of all the theories that have been brought up, and the one that looks the most natural to me, is an article from the pen of H. Alley, Wenham, Mass., vol. 8, page 93, A. B. J., that honey dew was the cause of it, in his opinion. Shortly after, Dr. Bohru, of Alexandria, Indiana, in his address to the beekeepers of that place, gave it as his opinion that honey dew was the true cause.

I have been keeping bees for some time and am anxious to learn all I can about their habits and requirements, but would give more to know this one thing than all their other hidden secrets combined. Hosmer may ask why the honey dew has not made its destruction before? There might have been an uncommon amount of honey dew that year all over the country. It did not sour the honey, but had a tendency to physic the bees.

Bees suffered very badly here in this locality with the disease this last winter; there was not hardly enough left of them for seed. It was

no mystery about it this time, for the honey they gathered last fall was black, sour stuff; it looked more like New Orleans molasses than anything else.

Novice will say to this, "Bless my soul, haven't we told you that bees never die when fed on sugar syrup." I don't believe, as a rule, that we have got to feed our bees on sugar in order to keep them alive; there may be times when it may be beneficial. Nor I don't believe that man has got to be wiser than the Almighty, although there are some who are far superior to him—in their own estimation. If bees cannot live on honey, what were they made for?

Mr. Editor, I want to ask you one question. Is the king bird guilty of catching worker bees, or not? If he is, shall we not shoot him? I have been told they caught nothing but lazy drones; if that is true, then long may he live. I have allowed them around my apiary at times, and at other times would follow them half a mile to shoot them, and keep it up until my conscience smote me, and then would say to myself, do they catch bees or not? I never have caught them in the act yet, for certain, and am not fully satisfied in regard to their natural disposition. If anybody does know, may they let their light shine.

Bees have done well here this season; have paid 100 per cent. on money invested. May the old AMERICAN BEE JOURNAL live as long as bees continue to live on honey; but when it gets so poisonous that neither bees nor man can live on it, then WE shall not feel so proud of it as we do now.

DAVID MARSH.

Illinois, Sept. 28, 1873.

THE Queen-bee feels an instinctive horror at the sight of a royal cell. HUBER.

Honey Markets.

CHICAGO.

Choice white comb honey, 28@30c; fair to good, 24@28c.

Extracted, choice white, 14@16c; fair to good, 10@12c. Strained, 8@10c.

CINCINNATI.

Quotations from Chas. F. Muth, 976 Central Ave.

Comb honey 15 @ 35c. $\frac{3}{4}$ lb, according to the condition of the honey and size of the box or frame.

Extracted choice white clover honey 16 cts $\frac{3}{4}$ lb.